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Haunting Clouds

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Clouds form part of a shared and familiar everyday aesthetic. Cloud narrative through which patterns are seen, incorporate more than simple pareidolia when we consider the nuclear cloud. Ordinarily, pareidolia refers to witnessing illusion; thus, we might see images and symbols in clouds. However, the nuclear cloud engages a more nuanced narrative of cultural trauma than the term pareidolia encompasses. The idea of the 'haunting' mushroom cloud represents nuclear development and the residual trauma of detonation. Nuclear clouds are 'mnemonic images' in so much as their iconography refers to a stacking of related events. Thus, news reports on the radioactive cloud from Chernobyl (1986) often referenced radioactivity in Hiroshima (1945).¹ Recollection alone, though, does not account for the convergence of diverse nuclear crises onto one iconic image of the mushroom cloud. Instead, the nuclear cloud has special cultural relevance not only for its form but also for the trace it leaves behind. This trace marks the existence of the dissipated cloud, a hidden threat which is revealed after the cloud has matured. An invisible, haunting cloud.

Clouds

Initially, America took delight in the atomic bomb as a force that won the war. However, the celebration made way to anxiety when in 1949, a radiation cloud encountered over the Pacific Ocean transformed the nuclear bomb as an American symbol of triumph to something out of control and in enemy hands. The date was August 29th, the crew of a U.S. Air Force B-29 bomber detected a radiation cloud over the Pacific at 18,000 ft. This cloud

¹ This connection is evident even in an article from June 2000. See: BBC, 'Chernobyl to close', *BBC*, 6 June 2000 < <http://news.bbc.co.uk/1/hi/world/europe/778408.stm> >

was the bloom of Joe 1. The cloud drifted east and during its journey inadvertently alerted the United Kingdom and America that the Soviets had successfully created and tested their first nuclear weapon. It was the radiation trace, rather than the cloud itself that signalled a shift in nuclear power.

‘There are no two identical clouds,’ argues Guido Visconti on the subject of atmospheric chemistry, but ‘we know that at the base of cloud evolution there are processes that could be described and understood.’² Nuclear weaponry and nuclear power are remarkably different, despite often being discussed under the blanket term ‘nuclear technology’. The Fukushima Daiichi plume from the 2011 disaster in Japan, is unlike the Three Mile Island ‘hydrogen bubble’ (1979) and unlike the drifting Chernobyl cloud (1986), and remarkably unlike the Hiroshima and Nagasaki iconic mushroom cloud of fire and dust from August of 1945, and unlike the test plumes of the Cold War. Yet, when considering the narrative of these clouds we might identify something of a nuclear ‘culture’ through which popular conceptions of how the technology is widely described and understood is conceptualised and discussed.

Revealing

Apocalyptic clouds signify the revelation of an event that has damaging consequences. Jacques Derrida notes the etymology of Apocalypse goes back to the Hebrew *gala*; *gala* was translated into the Greek word *Apokalupsis*/*Apokaluptó* which means, ‘I disclose, I uncover, I unveil [...]’.³ Nuclear clouds reveal something that is at once hidden:

² Guido Visconti, *Fundamentals of Physics and Chemistry of the Atmosphere, Volume 1* (New York: Springer, 1965), p. 507.

³ Jacques Derrida, ‘On a Newly Arisen Apocalyptic Tone in Philosophy’, in *Raising the Tone of Philosophy: Late Essays by Immanuel Kant, Transformative Critique by Jacques Derrida*, ed. by Peter Fenves (London: The John Hopkins University Press, 1993), pp. 117-73 (p. 118).

radiation being one of the biggest ‘invisible’ threats to be traced after the visual momentary revelation of the plume. However, apocalypse also refers to widespread disaster involving ‘immense cataclysm or destruction.’⁴ Robert J. Lifton argues that technological developments, such as the nuclear weapon, provokes an intense psychological trauma as apocalypse becomes a man-made act.⁵ The nuclear cloud is man-made, it directly counters the naturally formed clouds initially linked to idealistic pareidolia. The nuclear cloud reveals man-made apocalyptic potential - yet it is in the aftermath that the ramifications of fallout and radiation make themselves known. The aftermath of the cloud is now as iconic as the plume itself. Nuclear clouds leave a trace of something readily associated with death. This is something Jacqueline Taylor Basker comments on: ‘From a secular perspective, the cloud has served in recent years as an image of destruction.’⁶ Basker suggests that the rich, spiritual, historical, and culturally diverse meanings of the cloud across nations has become overshadowed, or even contaminated, by a greater more consuming cloud of destruction. A man-made and apocalyptic symbol of our times.

Concerns over artificial clouds and their negative revelations have a long history often associated with pollution. John Ruskin’s lecture *The Storm-Cloud of the Nineteenth-Century* (1884) addressed his concern over ‘plague-cloud’ phenomena.⁷ Ruskin’s clouds were dark omens as he observes ‘It looks partly as if it were made of poisonous smoke’ possibly even ‘made of dead men’s souls.’⁸ The clouds were, for Ruskin, a sign of *his* times, the cost of industrialisation and metaphoric of moral pollution. For *our* times, Peggy Rosenthal explains that the mushroom cloud is a symbol for the atomic age and is enshrined with cultural

⁴ John Wallis, ‘Apocalypse at the Millennium’, in *The End All Around Us: Apocalyptic Texts and Popular Culture*, ed. by John Wallis and Kenneth G. C. Newport (London: Equinox Publishing, 2009), pp. 71-97 (p. 73).

⁵ Robert J. Lifton, ‘NUCLEAR’, *New York Times*, 26 September 1982, p. 58.

⁶ Jacqueline Taylor Basker, ‘The Cloud as Symbol: Destruction or Dialogue’, *CrossCurrents*, 56.1 (2006), pp. 110-115, p. 110.

⁷ John Ruskin, *The Storm Cloud of the Nineteenth Century* (New York: John Wiley, 1884), p. 32.

⁸ Ruskin, p. 33.

meanings (from politics to history and from triumph to disaster).⁹ The nuclear cloud may be a sign of moral and industrial pollution; not dissimilar to Ruskin's observations, perhaps. Yet, there is an evolution of the 'poisonous smoke' and a greater resonance with the symbolic link to 'dead men's souls' when we consider the nuclear cloud and its association with trace remainder such as radiation and contamination that inspire end of the world scenarios. It is possible to survive Ruskin's cloud of industrialisation; but, it is possible to face extinction through the nuclear cloud.¹⁰

Linking the cloud and trace to apocalyptic destruction in historical, autobiographical texts is common. Retelling his experiences of Hiroshima in the graphic narrative *Barefoot Gen*, Keiji Nakazawa depicts the mushroom cloud dominating a large vertical panel but during the aftermath of the devastation, cloud tails swirl against scenes of graphic injury. It becomes difficult to distinguish between clouds of dust, clouds of smoke, and the trace of radiation. Clouds linger long after the detonation, often encroaching on the top left-hand corner of panels. Yet, there is a moral and political dimension to clouds, as Ruskin notes, that move beyond acknowledgement of their physical ramifications. Political cartoons during the Cold War not only depicted cloud and trace but pushed further to uncover more complex political and moral narratives that swirl within 'nuclear culture.' Herbert Block (Herblock) in the *Washington Post*, for example, responded to Cold War events through nuclear cartoons. Following the Cuban Missile Crisis 'Let's Get a Lock For This Thing' (1962) features Kennedy and Khrushchev trying to restrain a monster in a box marked 'Nuclear War' - as the monster tries to claw out of his prison, cloud puffs escape. When Communist China

⁹ Peggy Rosenthal, 'The Nuclear Mushroom Cloud as Cultural Image', *American Literary History*, 3.1 (1991), 63-92.

¹⁰ There is not necessarily a disconnect between the 'poisonous smoke' of the Ruskin's industrial cloud and the conflict driven nuclear mushroom cloud even though the latter is linked to spectacle. Artificial clouds can be seen to be connected through the outputs/residue of technological development during and after industrialization. Ideas of contamination by artificially occurring clouds are a uniting issue.

detonated an atomic bomb in 1964, Block inscribed the mushroom cloud with the face of Mao Tse-tung ('Mushrooming Cloud', 1965), demonstrating a trace of Communism in the cloud. In these examples, the trace left behind has a complex story. Stories like *Barefoot Gen* contend with immediate ramifications such as destruction and radiation, other examples like Herblock's cartoons deal with Cold War anxieties; these political issues linger in ghostly trails similar to the physical contamination seen encroaching on panels in Nakazawa's work.

Concealing

Although apocalyptic to some, for others the cloud was spectacular and in its visual glory some ramifications were overlooked. David Nye, in his work on the technological sublime, notes that the first atomic test rendered the scientists awed and triumphant.¹¹ The power of the atom bomb became splendid for tourists (including schoolchildren and families) who travelled to witness atomic detonations at the Nevada test site.¹² Imagination ran rife as the many advantages of atomic energy were envisioned – such as energy too cheap to metre. Nye notes that it was the shift from detonation to the domestication of the technology that helped render it sublime.¹³

Enjoyment of the nuclear cloud was displayed through the popularity of nuclear postcards as well (especially popular in the 1950s). These postcards were purchased for mailing but also as mementoes and gifts - many were preserved as art.¹⁴ On the back of the

¹¹ David Nye, *American Technological Sublime* (Massachusetts: MIT, 1994), p. 228.

¹² Nye., p. 233.

¹³ Nye., pp. 234-5.

¹⁴ Although the focus here is on the photographic spectacle of the cloud, artwork from 1945 onwards has focused on exploring the philosophy and politics of the cloud in creative pieces that allowed for a more nuanced investigation than stock photography perhaps allowed. Alongside cartoons, illustration and graphic narrative, art, in broader contexts, employed the nuclear cloud in paintings, sculpture, photography and other visual media to comment on life in the Nuclear Age. The convergence of commercial visions and military apocalyptic potential was seen in an early piece by Salvador Dalí (*Idilio atómico y uránico melancólico*/Atomic and Uranic Melancholic Idyll, 1945), who was then joined by Jackson Pollock, Barnett Newman, Willem de Kooning,

postcard *Atomic Explosion: Frenchman's Flats, or Yucca Flats, Nevada* a sender wrote: 'I know that you will want to have this pictured framed.'¹⁵ The glorification of such images does not express caution (for this negative message conflicts with the positive connotation of mailing postcards) but a sharing of spectacle that is something worth seeing. Such a sentiment is expressed on a preserved copy of the *Atomic Explosion* postcard sent to Agnes Julian in 1954 as the message reads 'really swell to be here.' As John O'Brian and Jeremy Borsos note the image and message converge.¹⁶ The swell of the cloud, in its awesome and blooming glory, corresponds to the senders 'swell time.'

During the Cold War, the American government tried to reposition nuclear technology into a benevolent force through nuclear power. In 1957 Walt Disney's publication and television documentary 'Our Friend the Atom' (1957) sort to convert the mushroom cloud into a benevolent genie synonymous with the fable 'The Fisherman and the Genie'.¹⁷ Disney's nuclear genie rises like the mushroom cloud, but this genie's tremendous power is presented as beneficial to the public. This genie helps to grow crops and light houses. Disney's atomic genie attempted to soothe nuclear fears and educate the public on the positivity of the technology as the nuclear power industry started to rise more dominantly.

However, despite the efforts of Disney and the government, and the sublimity of the nuclear, there remained a dark legacy of the nuclear cloud even when discussing 'safe' and

Andy Warhol, and Mark Rothko in depicting the trauma of the nuclear in art. These artworks acted to contextualize and problematize the cloud imagery that had been previously reserved as a symbol of American triumph. The sublimity of the mushroom bloom was given particular attention in abstract art. In his 'bursts' works of the fifties and sixties, Adolph Gottlieb presented colored orbs and smudged masses, which many attribute to a presentation of bomb and explosion; Cy Twombly's oil and graphite on canvas piece shows a large red smudged mass above the words "like a fire that consumes all before it". One of the most important and multi-narrative artworks was presented by Henry Moore in 1967 when a twelve-foot bronze sculpture marking twenty years since the first chain reaction at Chicago Pile, was installed on the 2nd of December. Moore's statue represents a frozen cloud mid bloom and has a dark solidity that firmly depicts the endurance of the mushroom cloud in contemporary life. In many respects, nuclear photography presents the reality of the cloud, but art explores the ramifications and delves into the complex narrative of cloud mythology.

¹⁵ "From Fried and Family." Referenced in John O'Brian and Jeremy Borsos, *Atomic Postcards* (Chicago: intellect, 2011), p. 9.

¹⁶ John O'Brian and Jeremy Borsos, *Atomic Postcards* (Chicago: intellect, 2011), p. 10.

¹⁷ Rosenthal also remarks on the link between the cloud and the genie and goes into more detail into additional mythological links to the cloud (pp. 84-89).

‘domesticated’ nuclear power technologies. Cynical awareness arose alongside the main thrust of the anti-nuclear movement and peaked after nuclear power accidents. It was the fear of the radiation trace the cloud leaves behind that truly unites these very different events. Although not a mushroom cloud, the power industry has been associated with numerous artificial clouds of contamination. Windscale, England, not only released clouds of smoke during the 1957 accident, but it released clouds of radioisotopes, concealed from the people but manifest when contaminated milk had to be destroyed. Years later, when discussing the 1979 nuclear power plant accident at Three Mile Island in Pennsylvania, America, Lonna Malsheimer links the disaster to the ‘first icon of the nuclear age, the mushroom cloud.’¹⁸ In another account from Three Mile Island, Libbe Halevy in her memoir, *Yes, I Glow In The Dark!* remarks on fearsome clouds when she recalls her terror of the fog outside her home: ‘There was a smog-like haze in the air, thick and humid. Caused by radiation? Carrying fall-out? How many roentgens in a millirem?’¹⁹ The toxic cloud that was released during the Chernobyl 1986 disaster was detected across Europe on radiation detectors. An article in *New Scientist* (1987) aptly describes the importance of trace left behind in this cloud story: ‘It will be many years before the cloud finally vanishes from the reactor at Chernobyl in the USSR. The physical cloud, although not its radioactive burden, may have dissipated, only time will lift the cloud of fear that hangs over nuclear power.’²⁰

Residue

¹⁸ Lonna M. Malsheimer, ‘Three Mile Island: Fact, Frame, and Fiction’, *American Quarterly*, 38. 1 (Spring, 1986), pp. 35-52, p. 35.

¹⁹ Libbe Halevy, *Yes, I Glow In The Dark! One Mile from Three Mile Island to Fukushima and Beyond* ([n.l].: Heartistry Communications, 2014), Kindle edition, LOC 353

²⁰ ‘A cloud of gloom and doom’, *New Scientist*, April 23, 1987, p. 17.

A postcard series published by Benny Binion's Horseshoe Club c1950 (*Actual Pictures of Dreaded Bomb Blasts, Frenchman's Flats, Nevada*) documents the evolution of the cloud over eight images. The successive imaging marks the development of the cloud: first, we see the sudden appearance of the cloud where there was once black 'nothingness', then we witness the development of the trunk and plume, then we note the dissolving of the cloud into detached parts, and finally we watch the lingering unattached head of the cloud camouflage with the sky. These images showcase a cloud that is born in an instant and matures in seconds and then ominously disintegrates into the atmosphere where it masquerades as a natural cloud before vanishing as if it never existed. Yet, this dissipated cloud fragment leaves behind an invisible radioactive trace and a complex contextual history.

The trace left behind from nuclear power accidents can be measured with Geiger counters; and, the nuclear bomb leaves ruins (from the cities of Hiroshima and Nagasaki, to the destroyed villages of test sites). Although most iconic mushroom cloud images show only the spectacle of the bloom and do not evidence the land and structures being demolished, nuclear ruins, such as the destroyed city of Hiroshima, are famous sights. Ruins are important because they are monuments to history and the unique destructive event that rendered them ruined; consequently, ruins enshrine and reflect meaning and specific moments in time. Ruins are uncanny for their ability to represent the past within the present and turn the familiar unfamiliar. This process Tim Edensor describes as a lingering ghost: 'ruins are rampantly haunted by a horde of absent presences'.²¹ Robert Ginsberg also describes a 'presence' within the ruin but, rather than attribute it to a ghostly residue Ginsberg claims that ruins have a semblance of life due to their ability to conjure emotion in the witness; consequently, they are not 'inert and dead, but moving and vital.'²² The cloud is that too; a mass haunted by 'absent

²¹ Tim Edensor, *Industrial Ruins. Space, Aesthetics and Materiality* (Oxford: Berg Publishers, 2005), p. 125.

²² Robert Ginsberg, *The Aesthetics of Ruins* (New York: Editions Rodopi, 2004), p. 1.

presences'; a form that is moving and vital but all at once signifies the inert and dead. There is a ghostly residue of past catastrophes and past celebrations in the nuclear cloud played out in photographs, postcards, non-fiction and fiction. The rich history of nuclear development from the early days of X-ray, the Curies, the Manhattan Project, World War Two, and Windscale are present in all nuclear clouds from the iconic image of Ivy Mike to cloud contamination after Chernobyl. The story is not always in the cloud, but often in the invisible one that lingers behind in a hidden plume to be revealed as a companion to catastrophe: sublimely haunting.

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